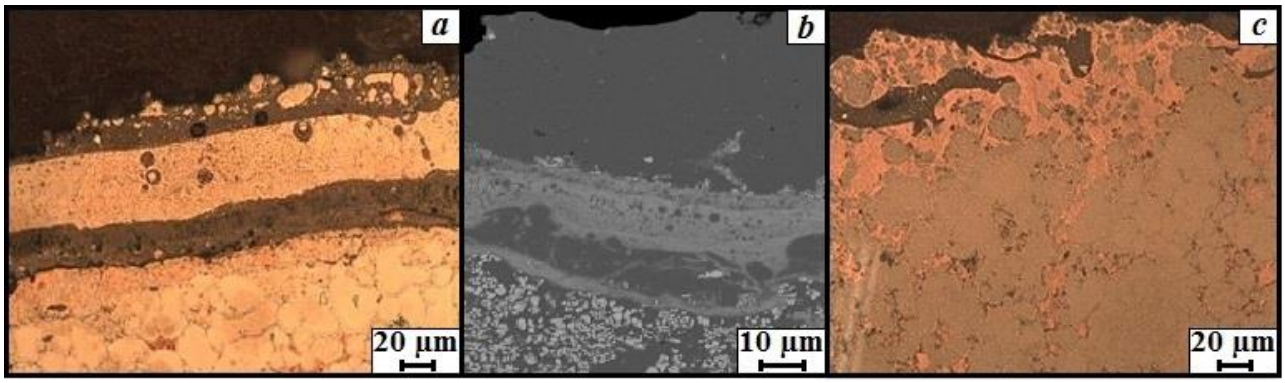

Fig. 1. Microstructure of the upper layers of Cu-Cr (a), Cu-W (b), Cu-Cr-W (c) alloys after arc resistance test

The work was carried out within the framework of the state task of IMET UB RAS.

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THE CORRECTION OF GROSS BETA MEASUREMENTS OF THE SURFACE SEDIMENT IN THE DIFFERENT URBAN ZONES.

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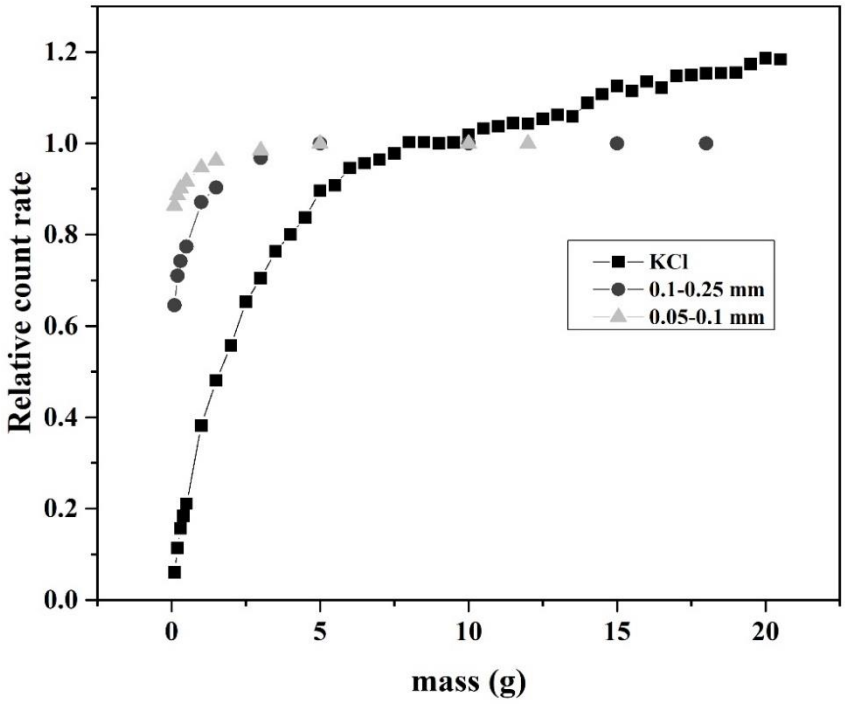
The contemporary sediment in the surface urban zone derived from the natural and artificial processes. The measurement gross beta in the urban sediment it is indicator for the radioactive content and transport. The bulk urban samples are fractionated with three fraction size. The count rate for different masses of the same samples were measured and the relative count rate was estimated. The dependence on sensitivity on the size fraction may be caused by different relative projective area of large and small size grains when small amount of the material is available for the analysis. It is concluded the efficiency of the detection system depends on the size fraction of the sediment sample.



Dependence of relative count rate (I(m)/I(m=10g)) on mass of standard source KCl and DRS (with fractions 0.05-0.1 mm and 0.1-0.25 mm).

OCCUPATIONAL EXPOSURE IN PROSPECTING TRENCHES AT SEILA AREA, SOUTH EASTERN DESERT, EGYPT

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The workers exposure for natural radiation in eight trenches distributed at Seila area, South Eastern Desert of Egypt is estimated. The natural radionuclides (^{238}U, ^{232}Th and ^{40}K) activity is measured with a portable RS-230 Gamma-Ray Spectrometer (1024 channels). The absorbed dose rate and the corresponding annual effective dose are computed based on the measured activity. Also, the external exposure to gamma rays, effective dose, is direct measured with RDS-100 survey-meter, ALNOR, Turku, Finland. The direct and indirect effective dose are compared.

The mean activity concentration of the ^{238}U, ^{232}Th and ^{40}K in the normal trench's granites are 824 (120-3565), 79 (22-136) and 1735 (1064-2254) Bq.kg^{-1} respectively. These activities were measured in seven different trenches, nearly with the same geometry and physical conditions. At least 4 measurements for each one. One box cut (a special trench with different geometry and physical conditions) is included with mean